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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,437

10/28/2003

Kunio Kawakami

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EXAMINER

PHAM, HAI CHI

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/694,437

Applicant(s)

KAWAKAMI, KUNIO

Examiner

Hai C. Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-9 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-3, 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Kosugi (Pub. No. U.S. 2002/0135630).

Kosugi discloses an ink jet recording apparatus comprising multiple cartridges (ink cartridges 7a and 7b) (Fig. 1) (paragraph [0023]), which contain recording materials therein (e.g., ink cartridge 7a contains black ink and ink cartridge 7b contains 5 colors of inks) (paragraph [0025]), and an apparatus communication module (transmitting-receiving antenna 52 arranged on the inner surface of the casing 12) that establishes wireless communication with each of said multiple cartridges (paragraph [0030], each of

said multiple cartridges mounting a cartridge communication module (tags 21a and 21b arranged on the sides of the respective cartridges 7a and 7b) (Fig. 3), which establishes wireless communication with said apparatus communication module and possesses intrinsic information for identification of each of said multiple cartridges in wireless communication (the tags 21a and 21b each comprising an antenna 54a, 54b, and a storage element 53a, 53b for storing information related to type of ink, residual amount of ink (paragraphs [0037]-[0038]), said recording apparatus comprising a transportation module (carriage 1 and carriage motor 3) (paragraphs [0023]-[0025]) that is capable of collectively transporting said multiple cartridges and sequentially makes said cartridge communication modules mounted on said multiple cartridges approach to and pass by an antenna, which is provided for the wireless communication (paragraphs [0030]-[0032]), and an access module (control circuit of the printer as shown in Fig. 3) that, when said cartridge communication module mounted on any one of said multiple cartridges enters a communicable range of said apparatus communication module via the antenna and establishes communication with said apparatus communication module, identifies the one of said multiple cartridges based on the intrinsic information possessed by the one of said multiple cartridges and transmits predetermined data to or from said identified cartridge (the control circuit of the printer includes a non-contact communication interface 51 for connecting and retrieving information stored in the storage elements of the tags 21a and 21b of the ink cartridges via the transmitting-receiving antenna 52 so as to identify the type of ink in each of the cartridges along with other informational data) (paragraph [0036]).

Kosugi further teaches:

- wherein said transportation module comprises a carriage (carriage 1) with said multiple cartridges mounted thereon, and a conveyance sub-module (cartridge motor 3) that conveys said carriage for recording on a recording medium with the recording materials, said conveyance sub-module sequentially making said cartridge communication modules (tags 21a, 21b) mounted on said multiple cartridges approach to and pass by the antenna (52) (Figs. 2A-2C) (paragraphs [0030]-[0032]),
- wherein said conveyance sub-module sequentially makes said cartridge communication modules mounted on said multiple cartridges approach to and pass by the antenna out of a recording range onto the recording medium (the transmitting-receiving antenna 52 is located on the right side of the recording paper 5 out of the printing region) (Fig. 1),
- wherein each of said multiple cartridges has an ink chamber containing one of multiple color inks as the recording material (paragraph [0002]),
- wherein the predetermined data transmitted to and from said access module comprise data regarding the recording materials contained in said multiple cartridges (the storage elements 53a and 53b included in the respective tags 21a and 21b of the ink cartridges contain information such as the residual amount of ink of each color) (paragraph [0038]).

The method step 9 is deemed to be clearly anticipated by functions of the above structures.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kosugi in view of Parry et al. (Pub. No. U.S. 2002/0194064).

Kosugi discloses all the basic limitations of the claimed invention except for the cartridge communication modules approaching to and pass by the antenna in a recording range onto the recording medium.

Parry et al. discloses in Fig. 1 an image forming apparatus comprising a cartridge or container (116) provided with radio frequency identification tag (118) that is detected by the sensor (120), which comprises an antenna or coil and a transceiver to read the information stored in the RFID tag (paragraph [0037]), the sensor being located above the cartridge opposite to the RFID tag and in the recording range of the recording medium.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to position the wireless communication unit of Kosugi in the recording area of the recording paper as taught by Parry et al., since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

5. Claims 6/1-6/3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosugi in view of Dietl et al. (Pub. No. U.S. 2002/0063760).

Kosugi discloses all the basic limitations of the claimed invention including the cartridge communication module that includes an antenna wherein the power is supplied to the storage elements for the ink cartridges in a non-contact state (paragraph [0011]), but fails to explicitly teach the cartridge communication module utilizing electromagnetic induction for transmission of the predetermined data.

Dietl et al. discloses an ink jet printer having an ink cartridge (14) including a radio frequency identification structure (18) molded or attached as a tag onto the cartridge, the radio frequency identification structure comprising an antenna (20) arranged as an inductive-coupled device with a coil antenna for transmitting information (paragraphs [0015]-[0016]) such that the ink cartridge identification system is remotely powered.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the coil antenna as the cartridge communication module in the device of Kosugi as taught by Dietl et al. the motivation for doing so would have been to allow the cartridge communication module to communicate without power supply from another source and any electrical contacts for communication.

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6. Claim 6/4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kosugi in view of Parry et al., as applied to claim 4 above, and further in view of Dietl et al.

Kosugi, as modified by Parry et al., discloses all the basic limitations of the claimed invention including the cartridge communication module that includes an antenna wherein the power is supplied to the storage elements for the ink cartridges in a non-contact state (paragraph [0011]), but fails to explicitly teach the cartridge communication module utilizing electromagnetic induction for transmission of the predetermined data.

Dietl et al. discloses an ink jet printer having an ink cartridge (14) including a radio frequency identification structure (18) molded or attached as a tag onto the cartridge, the radio frequency identification structure comprising an antenna (20) arranged as an inductive-coupled device with a coil antenna for transmitting information (paragraphs [0015]-[0016]) such that the ink cartridge identification system is remotely powered.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the coil antenna as the cartridge communication module in the device of Kosugi as taught by Dietl et al. the motivation for doing so would have been to allow the cartridge communication module to communicate without power supply from another source and any electrical contacts for communication.



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***Allowable Subject Matter***

7. Claims 5 and 6/5 are is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

8. Applicant's arguments with respect to claims 1-4 and 6-9 have been considered but are moot in view of the new grounds of rejection.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM  
PRIMARY EXAMINER

February 27, 2006